

May 9, 2019 DISCUSSION DRAFT

Mark Correll
Deputy Assistant Secretary of the Air Force for
Environment, Safety and Infrastructure, SAF/IEE
1665 Air Force Pentagon
Room # 4B941
Washington, DC 20330-1665

Meredith Williams
Acting Director, Department of Toxic Substances Control
California Environmental Protection Agency
P.O. Box 806
Sacramento, CA 95814

Patty Kouyoumdjian
Executive Officer
Lahontan Regional Water Quality Control Board
2501 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150

Re: Resolution of Dispute under the Federal Facility Agreement for the Draft Final
Explanation of Significant Differences, South Air Force Research Laboratory Site,
Edwards Air Force Base (CA).

By letter dated January 31, 2018, the Acting Assistant Secretary of the Air Force (Installations, Environment, and Energy) elevated to the Administrator of the Environmental Protection Agency (EPA) the January 17, 2018, resolution by EPA Region IX Acting Regional Administrator (RA) Alexis Strauss of the dispute regarding Draft Final Explanation of Significant Differences (ESD), South Air Force Research Laboratory Site (South AFRL Site), Edwards Air Force Base. In accordance with the Federal Facility Agreement's (FFA's) dispute procedures, we all met on March 8, 2019, to discuss this dispute.

The origin of this dispute is the Air Force's May 2014 Draft Final ESD that would modify the September 2007 Record of Decision (ROD) for the South AFRL Site. As proposed by the Air Force, the ESD would:

- update the perchlorate risk-based cleanup goal to adopt a more stringent value, based on a California Maximum Contaminant Level (MCL) that has been identified as a state applicable or relevant and appropriate requirement (ARAR),
- replace the California Office of Environmental Health Hazard Assessment (OEHHA) toxicity value used to estimate the groundwater vapor compliance level and indoor air mitigation level to prevent exposures that would exceed an excess cancer risk level of 1×10^{-6} for trichloroethene (TCE),

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- update the toxicity value used to estimate the groundwater vapor compliance level and indoor air mitigation level to prevent exposures that would exceed an excess cancer risk level of 1×10^{-6} for tetrachloroethene (PCE), based on a new 2012 IRIS toxicity value for PCE. The PCE toxicity value in the 2007 ROD is based on a 1991 OEHHA toxicity value.

California formally disputed the change to the PCE toxicity value on August 22, 2014. The EPA Region IX RA issued a decision on June 5, 2015, finding that the PCE toxicity value could not be changed through an ESD and instead required a ROD amendment. The Air Force disputed that decision and on July 8, 2015, the Air Force elevated that dispute to the EPA Administrator. On January 27, 2016 the Deputy Assistant Administrator for EPA's Office of Enforcement and Compliance Assurance, at the request of the Office of the Administrator, deferred a decision on the Air Force's dispute for fifteen months for the stated reason of giving the State time to update its PCE toxicity value and use the updated value for regulatory decision-making under state law. On January 17, 2018, the Acting Region IX RA issued a decision disapproving the change to the PCE toxicity value in the 2007 ROD because the ROD remained protective, no site-specific factors supported modifying the value, and because of the importance of providing certainty to the public, potentially responsible parties (PRPs), and parties interested in making use of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites for redevelopment or reuse when a remedy is selected.

In his January 31, 2018, letter the Acting Assistant Secretary of the Air Force disputes not only the RA's decision to retain the PCE toxicity value from the 2007 ROD for this site, but also the procedures and timelines used to address this dispute. Specifically, the Air Force objects as inconsistent with the FFA the June 9, 2015 decision of the Region IX RA to require a change in the PCE toxicity value to be carried out through an amendment to the ROD, while allowing a change to the values for perchlorate and TCE to be accomplished through an ESD, and the January 27, 2016 decision of the OECA Deputy Assistant Administrator to defer for fifteen months the Air Force's dispute regarding the RA's June 9, 2015, decision.

For the reasons stated below, I am affirming the Acting Region IX RA's January 2018 decision to retain the PCE toxicity value in the 2007 ROD for the South AERL site. I also am withdrawing the June 9, 2015 decision of the Region IX RA.

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to deviate from the FFA dispute resolution procedures and defer a decision on the Air Force's dispute to allow time for a state regulatory process to advance, I intend to hold EPA to the dispute resolution provisions of our FFAs, including the ongoing dispute related to the record of decision for the Arroyos operable unit at Edwards Air Force Base. On this point, I note that on September 18, 2018, the Assistant Administrator for the Office of Enforcement and Compliance Assurance, Susan Bodine, and the Acting Assistant Administrator for the Office of Land and Emergency Management, Barry Breen, issued a memorandum to EPA regional staff reinforcing this point: "formal dispute timelines should be

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followed to the greatest extent practicable” (*Principles for Reinforcing Federal Facility Agreement Informal and Formal Dispute Timelines*).

PCE Toxicity Value

Under CERCLA, a remedial action must, among other things, be protective of human health and the environment and cost effective.¹ A remedy also must be “relevant and appropriate under the circumstances presented by the release” and hazardous substances, pollutants or contaminants remaining onsite must meet ARARs under federal and, if more stringent, state, law.² The cost effectiveness of a remedy typically is analyzed by evaluating whether its costs are proportional to its overall effectiveness.³

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The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) specifically speaks about when the post-ROD issuance or modification of an ARAR warrants a change in the selected remedy:

Requirements that are promulgated or modified after ROD signature **must be attained** (or waived) only when determined to be applicable or relevant and appropriate and **necessary to ensure that the remedy is protective** of human health and the environment.⁴

The NCP preamble goes on to explain that this decision to “freeze the ARARs” of remedies at the time of ROD signature was rooted in a desire to promote certainty and to discourage repeated changes in remedies that could delay cleanups:

Once a ROD is signed and a remedy chosen, EPA will not reopen that decision unless the new or modified requirement calls into question the protectiveness of the selected remedy. . . . If ARARs were not frozen at . . . [the time of ROD signature], promulgation of a new or modified requirement could result in a reconsideration of the remedy and a restart of the lengthy design process, even if protectiveness is not compromised. This lack of certainty could adversely affect the operation of the CERCLA program, would be

¹ CERCLA § 121(a) and (d). EPA’s approach to determining protectiveness “involves risk assessment, considering both ARARs and to-be-considered materials (TBCs). Non-binding guidance documents and other TBCs (such as IRIS values) are considered in setting protective cleanup standards where ARARs “do not exist for those substances or because an ARAR alone would not be sufficiently protective.” CERCLA Compliance with Other Laws Manual (Interim Final, August 1988) at p. xiv-xv. In the absence of protective ARARs, EPA has issued guidance providing direction on which toxicity values to use for site-specific risk assessments. OSWER Directives 9285.7-53 (2003), 9285.7-16 (1993), and 9285.7-86 (2013).

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² CERCLA § 121(d)

³ 40 CFR § 300.430(f)(5)(ii)(D).

⁴ 40 C.F.R. § 300.430(f)(1)(ii)(B)(1) (emphasis added).

inconsistent with Congress' mandate to expeditiously cleanup sites and could adversely affect PRP negotiations, as noted by commenters.⁵

While the NCP is clear that EPA or another federal agency with cleanup authority⁶ *must* change a remedy if it is no longer protective, EPA also retains the discretion, within the bounds of the statute and the NCP, to make other post-ROD remedy changes.⁷ For example, EPA has issued guidance on changing remedies to "bring past decisions in line with the current state of knowledge with respect to remediation science and technology, and by doing so, improve the cost effectiveness of site remediation while ensuring reliable short and long term protection of human health and the environment."⁸ EPA's guidance on how to change remedies repeats that policy statement.⁹

Neither the NCP nor EPA guidance speaks directly to a situation when a post-ROD change to a remedy is an update to a toxicity value and the change is not required to maintain protectiveness. However, such a change clearly falls within EPA's discretion.¹⁰

When evaluating a potential modification ~~to~~ a remedy based on a new cleanup requirement or new toxicity information that does *not* call into question the remedy's protectiveness, the NCP preamble as well as EPA guidance on updating Superfund remedies provide important considerations: the importance of certainty and expeditious cleanup on the one hand and using best available science to improve cost-effectiveness while maintaining protectiveness on the other hand. There also may be other pertinent site-specific factors.

With regard to the South AFRL Site, three changes in the cleanup standard have been proposed:

- In 2014, based on a new 2011 IRIS value, the Air Force proposed to revise the TCE toxicity value to a more stringent level, despite the conclusion in the Air Force's 2012 five-year review that the toxicity value in the 2007 ROD was still protective. The Air Force voluntarily chose to use the new updated IRIS toxicity value for TCE, and California agreed with that decision.

⁵ 55 Fed. Reg. at p. 8757, March 8, 1990.

⁶ At any site listed on the NPL, whether it is owned or operated by another federal agency, the EPA Administrator is ultimately the person who is authorized to exercise that discretion. CERCLA §§ 120(e)(4)(A), 121(a).

⁷ CERCLA section 117(c).

⁸ See "Superfund Reforms: Updating Remedy Decisions" (Sept. 1996) (OSWER directive 9200.0-22).

⁹ See "A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Documents (OSWER directive 9200.1-23P) (July 1999) at 7-1 n.1. There may be other reasons for revising a remedy as well. See examples of post-ROD changes. Id. at 7-3 to 7-4.

¹⁰ EPA has issued ESDs to revise a remedy based on new toxicity information showing a contaminant of concern posed less risk than previously understood. See Salem Acres (Salem, MA) January 1998 ESD; Burlington Northern Somers Plant (Somers, Montana) July 1998 ESD; Petrochem Recycling Corp (Salt Lake City, Utah) March 1999 ESD; Commencement Bay November 1997 ESD.

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- The Air Force's 2012 five-year review concluded that a change to the cleanup goal for perchlorate was needed to ensure future protectiveness. The Air Force chose to replace the ROD's risk-based cleanup goal of 24 ppb for perchlorate with the October 2007 California perchlorate MCL of 6 ppb (a new ARAR). California agreed with that decision.

- The Air Force proposed to change the PCE toxicity value in the 2007 ROD to apply a new 2012 IRIS value that estimated that PCE was less toxic than **Ex. 5 - DP**. **Ex. 5 - DP** As a result in the change in toxicity for PCE, the Air Force could apply vapor intrusion controls to a more limited area and still meet the remedial action objective of preventing exposures to PCE that exceed an excess cancer risk level of 1×10^{-6} . California disputed that decision.

The dispute before me involves this third issue regarding a proposed change in the PCE toxicity value. The facts show that the PCE toxicity value in the 2007 ROD remains protective, so lack of protectiveness is not a basis for changing it for this OU at this site at this time. The Air Force also agrees that changing the PCE toxicity value in the South AFRL ROD will not result in any meaningful change to the cost of the remedy. In addition, under the proposed ESD, the technical means by which protection from exposure to PCE is achieved in the 2007 ROD (i.e., a groundwater vapor exclusion zone) would be unchanged. Thus, these facts do not present an opportunity to bring past decisions into line with the current state of knowledge with respect to remediation science and technology, and by doing so, improve the cost effectiveness of site remediation while ensuring reliable short and long term protection of human health and the environment. Finally, changing the PCE toxicity value in this ROD would reduce the certainty provided by a settled remedy. Accordingly, applying considerations identified in the statute, the NCP, and EPA guidance, a change in the PCE toxicity value in this ROD is not warranted under these facts.¹¹

Withdrawal of 2015 Region IX RA Decision

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¹¹ The facts presented in other RODs may lead to a different conclusion. In addition, if the facts at South AFRL change in the future, the Air Force could propose another ESD.

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Federal Facility Agreement Process and Timelines

Under the FFA for the South AFRL Site, after a party elevates a dispute to the EPA Administrator, a decision is to be made within 21 days. The dispute over the PCE toxicity value in the ROD for this site has been pending since July 2015.

This is not the last remedy decision to be made at the Edwards Air Force Base Superfund Site. In fact, a dispute over the PCE value in a ROD for another operable unit is working its way through the process. As stated in the *Principles for Reinforcing Federal Facility Agreement Informal and Formal Dispute Timelines*, “formal dispute timelines should be followed to the greatest extent practicable” by the FFA parties. I intend to hold EPA to this standard, including the ongoing dispute related to the record of decision for the Arroyos operable unit at Edwards Air Force Base.

I appreciate all the time and consideration that the parties have put into this dispute. Thank you for the information provided and the thoughtful discussion of the relevant issues.

Sincerely,

AW

cc: Bodine
Breen
Stoker

April 29, 2019 DISCUSSION DRAFT (ver. 53)

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Deputy Assistant Secretary of the Air Force for
Environment, Safety and Infrastructure, SAF/IEE
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Acting Director, Department of Toxic Substances Control
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The origin of this dispute is the Air Force's May 2014 Draft Final ESD that would modify the September 2007 Record of Decision (ROD) for the South AFRL Site. As proposed by the Air Force, the ESD would:

- update the perchlorate risk-based cleanup goal to adopt a more stringent value, based on a California Maximum Contaminant Level (MCL) that has been identified as a state applicable or relevant and appropriate requirement (ARAR),
- **Ex. 5 - DP** the California Office of Environmental Health Hazard Assessment (OEHHA) toxicity value used to estimate the groundwater vapor compliance level and indoor air mitigation level to prevent exposures that would exceed an excess cancer risk level of 1×10^{-6} for trichloroethene (TCE), with a toxicity value based on a 2011 **Ex. 5 - DP**

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California formally disputed the change to the PCE toxicity value on August 22, 2014. The EPA Region IX RA issued a decision on June 5, 2015, finding that the PCE toxicity value could not be changed through an ESD and instead required a ROD amendment. The Air Force disputed that decision and on July 8, 2015, the Air Force elevated that dispute to the EPA Administrator. On January 27, 2016 the Deputy Assistant Administrator for EPA's Office of Enforcement and Compliance Assurance, at the request of the Office of the Administrator, deferred a decision on the Air Force's dispute for fifteen months for the stated reason of giving the State time to update its PCE toxicity value and use the updated value for regulatory decision-making under state law. On January 17, 2018, the Acting Region IX RA issued a decision disapproving the change to the PCE toxicity value in the 2007 ROD because the ROD remained protective, no site-specific factors supported modifying the value, and the importance of providing certainty to the public, potentially responsible parties (PRPs), and parties interested in making use of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites for redevelopment or reuse when a remedy is selected.

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PCE Toxicity Value

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Once a ROD is signed and a remedy chosen, EPA will not reopen that decision unless the new or modified requirement calls into question the protectiveness of the selected remedy. . . If ARARs were not frozen at . . . [the time of ROD signature], promulgation of a new or modified requirement could result in a reconsideration of the remedy and a restart of the lengthy design process, even if protectiveness is not compromised. This lack of certainty could adversely affect the operation of the CERCLA program, would be inconsistent with Congress' mandate to expeditiously cleanup sites and could adversely affect PRP negotiations, as noted by commenters.⁸

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With regard to the South AFRL Site, three changes in the cleanup standard have been proposed:

- In 2014, based on a new 2011 IRIS value, the Air Force proposed to revise the TCE toxicity value to a more stringent level, despite the conclusion in the Air Force's 2012 five-year review that the toxicity value in the 2007 ROD was still protective. The Air Force voluntarily chose to use the **Ex. 5 - DP** IRIS toxicity value for TCE, and California agreed with that decision.

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Withdrawal of 2015 Region IX RA Decision

Under the NCP, EPA and other federal agencies may make insignificant changes to remedies without going through a formal process. Many insignificant changes are made to remedies during remedial design. If a change to the scope, performance, or cost of a remedy is significant, it requires an “explanation of significant differences” (ESD).¹⁶ If the change fundamentally alters the basic features of a remedy with respect to scope, performance, or cost, the change requires a ROD amendment.¹⁷

The change in the PCE toxicity value proposed by the Air Force in the 2015 draft ESD for the South AFRL ROD would not have changed the remedial action objective of reducing excess cancer risks from exposure to PCE to 1×10^{-6} .

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Thus, the change to the PCE toxicity value proposed by the Air Force in 2015, if appropriate under the facts of this matter, would have required an ESD, not a ROD amendment. Accordingly, the June 9, 2015 decision of the Region IX Regional Administrator to require a change in the PCE toxicity value to be carried out through an amendment to the ROD is withdrawn.

Federal Facility Agreement Process and Timelines

Under the FFA for the South AFRL Site, after a party elevates a dispute to the EPA Administrator, a decision is to be made within 21 days. The dispute over the PCE toxicity value in the ROD for this site has been pending since July 2015.

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¹⁶ 40 CFR § 300.435(c)(2)(i).

¹⁷ 40 CFR § 300.435(c)(2)(ii).

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~~May 2, April 30, 2019~~ DISCUSSION DRAFT

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Deputy Assistant Secretary of the Air Force for
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1665 Air Force Pentagon
Room # 4B941
Washington, DC 20330-1665

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² CERCLA § 121(d)

³ 40 CFR § 300.430(f)(5)(ii)(D).

⁴ 40 C.F.R. § 300.430(f)(1)(ii)(B)(1) (emphasis added).

Ex. 5 - DP

of certainty could adversely affect the operation of the CERCLA program, would be inconsistent with Congress' mandate to expeditiously cleanup sites and could adversely affect PRP negotiations, as noted by commenters.⁵

While the NCP is clear that EPA or another federal agency with cleanup authority⁶ *must* change a remedy if it is no longer protective, EPA also retains the discretion, within the bounds of the statute and the NCP, to make other post-ROD remedy changes.⁷ For example, EPA has issued guidance on changing remedies to "bring past decisions in line with the current state of knowledge with respect to remediation science and technology, and by doing so, improve the cost effectiveness of site remediation while ensuring reliable short and long term protection of human health and the environment."⁸ EPA's guidance on how to change remedies repeats that policy statement.⁹

Neither the NCP nor EPA guidance speaks directly to a situation when a post-ROD change to a remedy is an update to a toxicity value and the change is not required to maintain protectiveness. However, such a change clearly falls within EPA's discretion.¹⁰

When evaluating a potential modification to a remedy based on a new cleanup requirement or new toxicity information that does *not* call into question the remedy's protectiveness, the NCP preamble as well as EPA guidance on updating Superfund remedies provide important considerations: the importance of certainty and expeditious cleanup on the one hand and using best available science to improve cost-effectiveness while maintaining protectiveness on the other hand.

Ex. 5 - DP

With regard to the South AFRL Site, three changes in the cleanup standard have been proposed:

- In 2014, based on a new 2011 IRIS value, the Air Force proposed to revise the TCE toxicity value to a more stringent level, despite the conclusion in the Air Force's 2012 five-year review that the toxicity value in the 2007 ROD was still protective. The Air

⁵ 55 Fed. Reg. at p. 8757, March 8, 1990.

⁶ At any site listed on the NPL, whether it is owned or operated by another federal agency, the EPA Administrator is ultimately the person who is authorized to exercise that discretion. CERCLA §§ 120(c)(4)(A), 121(a).

⁷ CERCLA section 117(c).

⁸ See "Superfund Reforms: Updating Remedy Decisions" (Sept. 1996) (OSWER directive 9200.0-22).

⁹ See "A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Documents (OSWER directive 9200.1-23P) (July 1999) at 7-1 n.1.

Ex. 5 - DP

Ex. 5 - DP

Id. at 7-3 to 7-4.

¹⁰ EPA has issued ESDs to revise a remedy based on new toxicity information showing a contaminant of concern posed less risk than previously understood. See Salem Acres (Salem, MA) January 1998 ESD; Burlington Northern Somers Plant (Somers, Montana) July 1998 ESD; Petrochem Recycling Corp (Salt Lake City, Utah) March 1999 ESD; Commencement Bay November 1997 ESD.

Ex. 5 - DP

Ex. 5 - DP

Force voluntarily chose to use the **Ex. 5 - DP** IRIS toxicity value for TCE, and California agreed with that decision.

- The Air Force's 2012 five-year review concluded that a change to the cleanup goal for perchlorate was needed to ensure future protectiveness. The Air Force chose to replace the ROD's risk-based cleanup goal of 24 ppb for perchlorate with the October 2007 California perchlorate MCL of 6 ppb (a new ARAR). California agreed with that decision.
- The Air Force proposed to change the PCE toxicity value in the 2007 ROD to apply a new 2012 IRIS value **Ex. 5 - DP**

Ex. 5 - DP As a result in the change in toxicity for PCE, the Air Force could apply vapor intrusion controls to a more limited area and still meet the remedial action objective of preventing exposures to PCE that exceed an excess cancer risk level of 1×10^{-6} . California disputed that decision.

The dispute before me involves this third issue regarding a proposed change in the PCE toxicity value. The facts show that the PCE toxicity value in the 2007 ROD remains protective, so lack of protectiveness is not a basis for changing it for this OU at this site at this time. The Air Force also agrees that changing the PCE toxicity value in the South AFRL ROD will not result in any meaningful change to the cost of the remedy. In addition, under the proposed ESD, the technical means by which protection from exposure to PCE is achieved in the 2007 ROD (i.e., a groundwater vapor exclusion zone) would be unchanged. Thus, these facts do not present an opportunity to bring past decisions into line with the current state of knowledge with respect to remediation science and technology, and by doing so, improve the cost effectiveness of site remediation while ensuring reliable short and long term protection of human health and the environment. Finally, changing the PCE toxicity value in this ROD would reduce the certainty provided by a settled remedy. Accordingly, applying considerations identified in the statute, the NCP, and EPA guidance, a change in the PCE toxicity value in this ROD is not warranted under these facts.¹¹

Withdrawal of 2015 Region IX RA Decision

Under the NCP, EPA and other federal agencies may make insignificant changes to remedies without going through a formal process. Many insignificant changes are made to remedies during remedial design. If a change to the scope, performance, or cost of a remedy is significant, it requires an "explanation of significant differences" (ESD).¹² If the change fundamentally alters the basic features of a remedy with respect to scope, performance, or cost, the change requires a ROD amendment.¹³

The change in the PCE toxicity value proposed by the Air Force in the 2015 draft ESD for the South AFRL ROD would not have changed the remedial action objective of reducing excess

¹¹ The facts presented in other RODs may lead to a different conclusion. In addition, if the facts at South AFRL change in the future, the Air Force could propose another ESD.

¹² 40 CFR § 300.435(c)(2)(i).

¹³ 40 CFR § 300.435(c)(2)(ii).

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cancer risks from exposure to PCE to 1×10^{-6} . This change would not have fundamentally altered the scope, performance or cost of the remedy. Thus, the change to the PCE toxicity value proposed by the Air Force in 2015, if appropriate under the facts of this matter, would have required an ESD, not a ROD amendment. Accordingly, the June 9, 2015 decision of the Region IX Regional Administrator to require a change in the PCE toxicity value to be carried out through an amendment to the ROD is withdrawn.

Federal Facility Agreement Process and Timelines

Under the FFA for the South AFRL Site, after a party elevates a dispute to the EPA Administrator, a decision is to be made within 21 days. The dispute over the PCE toxicity value in the ROD for this site has been pending since July 2015.

This is not the last remedy decision to be made at the Edwards Air Force Base Superfund Site. In fact, a dispute over the PCE value in a ROD for another operable unit is working its way through the process. As stated in the *Principles for Reinforcing Federal Facility Agreement Informal and Formal Dispute Timelines*, "formal dispute timelines should be followed to the greatest extent practicable" by the FFA parties. I intend to hold EPA to this standard, including the ongoing dispute related to the record of decision for the Arroyos operable unit at Edwards Air Force Base.

I appreciate all the time and consideration that the parties have put into this dispute. Thank you for the information provided and the thoughtful discussion of the relevant issues.

Sincerely,

AW

cc: Bodine
Breen
Stoker

April 17, 2019 DISCUSSION DRAFT

Mark Correll
Deputy Assistant Secretary of the Air Force for
Environment, Safety and Infrastructure, SAF/IEE
1665 Air Force Pentagon
Room # 4B941
Washington, DC 20330-1665

Barbara A. Lee
Director, Department of Toxic Substances Control
California Environmental Protection Agency
P.O. Box 806
Sacramento, CA 95814

Doug Smith
Assistant Executive Officer
Lahontan Regional Water Quality Control Board
2501 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150

Re: Resolution of Dispute under the Federal Facility Agreement for the Draft Final
Explanation of Significant differences, South Air Force Research Laboratory Site,
Edwards Air Force Base.

By letter dated January 31, 2018, the Acting Assistant Secretary of the Air Force (Installations, Environment, and Energy) elevated to the Administrator of the Environmental Protection Agency (EPA) the January 17, 2018, resolution by EPA Region IX Acting Regional Administrator Alexis Strauss of the dispute regarding Draft Final Explanation of Significant differences (ESD), South Air Force Research Laboratory Site (South AFRL Site), Edwards Air Force Base. We all met on March 8, 2019, to discuss this dispute.

The origin of this dispute is the Air Force's May 2014 Draft Final ESD that would modify the September 2007 Record of Decision (ROD) for the South AFRL Site. As proposed by the Air Force, the ESD would:

- update the perchlorate risk-based cleanup goal to adopt a more stringent value, **Ex. 5 - DP**
- **Ex. 5 - DP**
- update the toxicity value used to estimate the groundwater vapor compliance level and indoor air mitigation level to prevent exposures that would exceed an excess cancer risk

level of 1×10^{-6} for tetrachloroethene (PCE),

Ex. 5 - DP

Ex. 5 - DP

California formally disputed the change to the PCE toxicity value on August 22, 2014. The EPA Region 9 Regional Administrator issued a decision on June 5, 2015, finding that the PCE toxicity value could not be changed through an ESD and instead required a ROD amendment. The Air Force disputed that decision and on July 8, 2015, the Air Force elevated that dispute to the EPA Administrator. On January 27, 2016 the Deputy Assistant Administrator for EPA's Office of Enforcement and Compliance Assurance **Ex. 5 - DP** fifteen months for the stated reason of giving the State time to update their PCE toxicity value and use the updated value for regulatory decision-making under state law. On January 17, 2018, the Acting Region 9 RA issued a decision disapproving the change to the PCE toxicity value in the 2007 ROD because the ROD remained protective, no site-specific factors supported modifying the value, and the importance of providing certainty to the public, potentially responsible parties (PRPs), and parties interested in making use of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites for redevelopment or reuse when a remedy is selected.

In his January 31, 2018, letter the Acting Assistant Secretary of the Air Force disputes not only the RA's decision to retain the PCE toxicity value from the 2007 ROD for this site, but also the procedures and timelines used to address this dispute. Specifically, the Air Force objects as inconsistent with the Federal Facility Agreement (FFA) the June 9, 2015 decision of the Region IX Regional Administrator to require a change in the PCE toxicity value to be carried out through an amendment to the ROD, while allowing a change to the toxicity values for perchlorate and TCE to be accomplished through an ESD, and the January 27, 2016 decision of the OECA Deputy Assistant Administrator to defer for fifteen months the Air Force's dispute regarding the Regional Administrator's June 9, 2015, decision.

For the reasons stated below, I am affirming the acting Region IX RA's decision to retain the PCE toxicity value in the 2007 ROD for the South AFRL site.

Ex. 5 - DP

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Finally, while I cannot

provide redress for the January 27, 2016, OECA Deputy Assistant Administrator's **Ex. 5 - DP** deviate from the FFA dispute resolution procedures and defer a decision on the Air Force's dispute to allow time for a state regulatory process to advance, I intend to hold EPA to the

Ex. 5 - DP

Ex. 5 - DP

Ex. 5 - DP

PCE Toxicity Value

Ex. 5 - DP

Ex. 5 - DP

¹ A remedy also must be “relevant and appropriate under the circumstances presented by the release” and remaining onsite must meet legally applicable or relevant and appropriate requirements (ARARs) under federal and, if more stringent, state, law.²

Ex. 5 - DP

Ex. 5 - DP

Ex. 5 - DP

Once a ROD is signed and a remedy chosen, EPA will not reopen that decision unless the new or modified requirement calls into question the protectiveness of the selected remedy. . . If ARARs were not frozen at . . . [the time of ROD signature], promulgation of a new or modified requirement could result in a reconsideration of the remedy and a restart of the lengthy design process, even if protectiveness is not compromised. This lack of certainty could adversely affect the operation of the CERCLA program, would be inconsistent with Congress’ mandate to expeditiously cleanup sites and could adversely affect PRP negotiations, as noted by commenters.⁶

Ex. 5 - DP

² CERCLA section 121(d)

³ 40 CFR 300.430(5)(ii)(D).

⁴ At any site listed on the NPL, whether it is owned or operated by another federal agency, the EPA Administrator is ultimately the person who is authorized to exercise that discretion.

CERCLA section 120(e)(4)(A).

⁵ Ex. 5 - DP

⁶ 55 Fed. Reg. at p. 8757, March 8, 1990.

Ex. 5 - DP

Under the NCP, EPA and other federal agencies may make insignificant changes to remedies without going through a formal process. Many insignificant changes are made to remedies during remedial design. If a change to the scope, performance, or cost of a remedy is significant,

Ex. 5 - DP

⁸ The facts presented in other RODs may lead to a different conclusion. In addition, if the facts at South AFRL change in the future, the Air Force could propose another ESD.

it requires an explanation of significant differences. If the change fundamentally alters the basic features of a remedy with respect to scope, performance, or cost, the change requires a ROD amendment.⁹

Ex. 5 - DP

Ex. 5 - DP

Accordingly, the June 9, 2015 decision of the Region IX Regional Administrator to require a change in the PCE toxicity value to be carried out through an amendment to the ROD is withdrawn.

FFA Process and Timelines

Under the Federal Facility Agreement for the South AFRL site, after a party elevates a dispute to the EPA Administrator, a decision is to be made within xx days. The dispute over the PCE toxicity value in the ROD for this site has been pending since July 2015.

This is not the last remedy decision to be made at the Edwards Air Force Base Superfund Site. In fact, a dispute over the PCE value in a ROD for another operable unit is working its way through the process.

Ex. 5 - DP

Ex. 5 - DP

Ex. 5 AC/DP

I appreciate all the time and consideration that the parties have put into this dispute. Thank you for the information provided and the thoughtful discussion of the relevant issues.

Sincerely,

AW

⁹ 40 CFR 300.435(c)(2).

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cc: Bodine
Breen
Stoker

DRAFT

Issue: EPA is under a consent decree to propose a drinking water regulation for perchlorate by Oct. 31, 2018. EPA's recently peer reviewed analysis predicts that the dose of perchlorate necessary to produce adverse impacts may be higher than the level used in EPA's 2011 determination to regulate perchlorate.

Ex. 5 Deliberative Process (DP)

Background:

- [HYPERLINK "https://www.epa.gov/sites/production/files/documents/perchlorate_memo_01-08-09.pdf"] set the current preliminary remediation goal (PRG) for perchlorate at 15 ppb in 2009.
 - The PRG is based upon OW's Interim Drinking Water Health Advisory for perchlorate.
- OW's Interim Drinking Water Health Advisory was issued in conjunction with the Agency's preliminary determination not to regulate perchlorate in drinking water.
- In 2011 EPA issued a determination to regulate perchlorate.
 - The determination to regulate was informed by Health Reference Levels (mostly lower than 15 ppb) calculated using the Reference Dose (RfD) and children's exposure factors.
- In 2013, the SAB recommended that EPA use biological models, rather than the approach used in the 2011 regulatory determination to calculate the Maximum Contaminant Level Goal (MCLG).
 - The MCLG is the non-enforceable goal set at a level where there is no adverse effect with an adequate margin of safety.
 - The MCL is the enforceable level set as close as feasible to the MCLG taking costs and benefits into consideration.
- EPA and FDA scientists worked collaboratively to develop biological models to predict the effects perchlorate exposure has on thyroid function in pregnant women and their children.
- EPA also assessed epidemiology studies that examined the impacts of thyroid hormone changes in pregnant women upon their children's neurodevelopment.
- Results of EPA's new analysis show that the concentration of perchlorate required to produce a unit change in measures of neurodevelopment may be greater than the levels that prompted the Agency to decide to regulate in 2011.
- The second of two peer review public meetings took place on January 29 - 30, 2018.
- In general, panel members indicated EPA's modeling analysis is better for predicting neurodevelopmental outcomes than the 2011 approach.
- Peer review panel report is due March 2018; key anticipated comments include:
 - guidance on evaluating study quality in the agency's assessment of epidemiology studies
 - need for additional uncertainty analysis
- EPA is under a Consent Decree that provides, among other things, that:
 - No later than October 31, 2018, EPA shall sign for publication in the Federal Register a proposed MCLG and NPDWR for perchlorate; and
 - No later than December 19, 2019, EPA shall sign a final MCLG and NPDWR for perchlorate.

[DATE]

John Henderson
Assistant Secretary of the Air Force for Installations, Environment and Energy
SAF/IE
1665 Air Force Pentagon
Washington, D.C. 20330

Meredith Williams
Acting Director, Department of Toxic Substances Control
California Environmental Protection Agency
P.O. Box 806
Sacramento, California 95814

Patty Kouyoumdjian
Executive Officer
Lahontan Regional Water Quality Control Board
2501 Lake Tahoe Blvd.
South Lake Tahoe, California 96150

Re: Resolution of Dispute under the Federal Facility Agreement for the Draft Final Explanation of Significant Differences, South Air Force Research Laboratory Site, Edwards Air Force Base (CA)

By letter dated January 31, 2018, the Acting Assistant Secretary of the Air Force (Installations, Environment, and Energy) elevated to the Administrator of the U.S. Environmental Protection Agency the January 17, 2018, resolution by EPA Region IX Acting Regional Administrator (RA) Alexis Strauss of the dispute regarding Draft Final Explanation of Significant Differences (ESD), South Air Force Research Laboratory Site (South AFRL Site), Edwards Air Force Base. In accordance with the Federal Facility Agreement's (FFA's) dispute procedures, we met on March 8, 2019, to discuss this dispute. The origin of this dispute is the Air Force's May 2014 Draft Final ESD that would modify the September 2007 Record of Decision (ROD) for the South AFRL Site. As proposed by the Air Force, the ESD would:

- update the perchlorate risk-based cleanup goal to adopt a more stringent value, based on a California Maximum Contaminant Level (MCL) that has been identified as a state applicable or relevant and appropriate requirement (ARAR);
- replace the California Office of Environmental Health Hazard Assessment (OEHHA) toxicity value used to estimate the groundwater vapor compliance level and indoor air mitigation level to prevent exposures that would exceed an excess cancer risk level of 1×10^{-6} for trichloroethene

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(TCE), with a toxicity value based on a 2011 EPA Integrated Risk Information System (IRIS) value that estimated that TCE was more toxic than estimated when applying the OEHHA value; and

- update the toxicity value used to estimate the groundwater vapor compliance level and indoor air mitigation level to prevent exposures that would exceed an excess cancer risk level of 1×10^{-6} for tetrachloroethene (PCE), based on a new 2012 IRIS toxicity value for PCE. The PCE toxicity value in the 2007 ROD is based on a 1991 OEHHA toxicity value.

California formally disputed the change to the PCE toxicity value on August 22, 2014. The EPA Region IX RA issued a decision on June 5, 2015, finding that the PCE toxicity value could not be changed through an ESD and instead required a ROD amendment. The Air Force disputed that decision and on July 8, 2015, the Air Force elevated that dispute to the EPA Administrator. On January 27, 2016, the Deputy Assistant Administrator for EPA's Office of Enforcement and Compliance Assurance, at the request of the Office of the Administrator, deferred a decision on the Air Force's dispute for fifteen months for the stated reason of giving the State time to update its PCE toxicity value and use the updated value for regulatory decision-making under state law. On January 17, 2018, the Acting Region IX RA issued a decision disapproving the change to the PCE toxicity value in the 2007 ROD because the ROD remained protective, no site-specific factors supported modifying the value, and because of the importance of providing certainty to the public, potentially responsible parties (PRPs), and parties interested in making use of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites for redevelopment or reuse when a remedy is selected.

In his January 31, 2018, letter the Acting Assistant Secretary of the Air Force disputes not only the RA's decision to retain the PCE toxicity value from the 2007 ROD for this site, but also the procedures and timelines used to address this dispute. Specifically, the Air Force objects as inconsistent with the FFA the June 9, 2015, decision of the Region IX RA to require a change in the PCE toxicity value to be carried out through an amendment to the ROD, while allowing a change to the values for perchlorate and TCE to be accomplished through an ESD, and the January 27, 2016, decision of the OECA Deputy Assistant Administrator to defer for fifteen months the Air Force's dispute regarding the RA's June 9, 2015, decision.

For the reasons stated below, I am affirming the Acting Region IX RA's January 2018 decision to retain the PCE toxicity value in the 2007 ROD for the South AFRL site. I also am withdrawing the June 9, 2015, decision of the Region IX RA on the need for a ROD amendment under these facts. Finally, while I cannot provide redress for the January 27, 2016, OECA Deputy Assistant Administrator's inappropriate decision to deviate from the FFA dispute resolution procedures and defer a decision on the Air Force's dispute to allow time for a state regulatory process to advance, I intend to hold the EPA to the dispute resolution provisions of our FFAs, including the ongoing dispute related to the record of decision for the Arroyos operable unit at Edwards Air Force Base. On this point, I note that on September 18, 2018, the Assistant Administrator for the Office of Enforcement and Compliance Assurance, Susan Bodine, and the Acting Assistant Administrator for the Office of Land and Emergency Management, Barry Breen, issued a memorandum to EPA regional staff reinforcing this point: "formal dispute timelines should be followed to the greatest extent practicable" (*Principles for Reinforcing Federal Facility Agreement Informal and Formal Dispute Timelines*).

PCE Toxicity Value

Under CERCLA, a remedial action must, among other things, be protective of human health and the environment and cost effective.¹ A remedy also must be “relevant and appropriate under the circumstances presented by the release” and hazardous substances, pollutants or contaminants remaining onsite must meet ARARs under federal and, if more stringent, state, law.² The cost effectiveness of a remedy typically is analyzed by evaluating whether its costs are proportional to its overall effectiveness.³

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) specifically speaks about when the post-ROD issuance or modification of an ARAR warrants a change in the selected remedy:

Requirements that are promulgated or modified after ROD signature **must be attained** (or waived) only when determined to be applicable or relevant and appropriate and **necessary to ensure that the remedy is protective** of human health and the environment.⁴

The NCP preamble goes on to explain that this decision to “freeze the ARARs” of remedies at the time of ROD signature was rooted in a desire to promote certainty and to discourage repeated changes in remedies that could delay cleanups:

Once a ROD is signed and a remedy chosen, EPA will not reopen that decision unless the new or modified requirement calls into question the protectiveness of the selected remedy. . . . If ARARs were not frozen at . . . [the time of ROD signature], promulgation of a new or modified requirement could result in a reconsideration of the remedy and a restart of the lengthy design process, even if protectiveness is not compromised. This lack of certainty could adversely affect the operation of the CERCLA program, would be inconsistent with Congress’ mandate to expeditiously cleanup sites and could adversely affect PRP negotiations, as noted by commenters.⁵

While the NCP is clear that the EPA or another federal agency with cleanup authority⁶ *must* change a remedy if it is no longer protective, the EPA also retains the discretion, within the bounds of the statute and the NCP, to make other post-ROD remedy changes.⁷ For example, the EPA has issued guidance on changing remedies to “bring past decisions in line with the current state of knowledge with respect to remediation science and technology, and by doing so, improve the cost effectiveness of site remediation

¹ CERCLA Section 121(a) and (d). The EPA’s approach to determining protectiveness “involves risk assessment, considering both ARARs and to-be-considered materials (TBCs). Non-binding guidance documents and other TBCs (such as IRIS values) are considered in setting protective cleanup standards where ARARs “do not exist for those substances or because an ARAR alone would not be sufficiently protective.” CERCLA Compliance with Other Laws Manual (Interim Final, August 1988) at p. xiv-xv. In the absence of protective ARARs, the EPA has issued guidance providing direction on which toxicity values to use for site-specific risk assessments. OSWER Directives 9285.7-53 (2003), 9285.7-16 (1993), and 9285.7-86 (2013). EPA guidance shall apply to federal agencies at NPL sites. CERCLA Section 120(a)(2).

² CERCLA Section 121(d)

³ 40 CFR § 300.430(f)(5)(ii)(D).

⁴ 40 C.F.R. § 300.430(f)(1)(ii)(B)(1) (emphasis added).

⁵ 55 Fed. Reg. at p. 8757, March 8, 1990.

⁶ At any site listed on the NPL, whether it is owned or operated by another federal agency, the EPA Administrator is ultimately the person who is authorized to exercise that discretion. CERCLA Sections 120(e)(4)(A) and 121(a).

⁷ CERCLA Section 117(c).

while ensuring reliable short and long term protection of human health and the environment.”⁸ The EPA’s guidance on how to change remedies repeats that policy statement.⁹

Neither the NCP nor EPA guidance speaks directly to a situation when a post-ROD change to a remedy is an update to a toxicity value and the change is not required to maintain protectiveness. However, such a change clearly falls within the EPA’s discretion.¹⁰

When evaluating a potential modification to a remedy based on a new cleanup requirement or new toxicity information that does *not* call into question the remedy’s protectiveness, the NCP preamble as well as EPA guidance on updating Superfund remedies provide important considerations: the importance of certainty and expeditious cleanup on the one hand and using best available science to improve cost-effectiveness while maintaining protectiveness on the other hand. There also may be other pertinent site-specific factors.

With regard to the South AFRL Site, three changes in the cleanup standard have been proposed:

- In 2014, based on a new 2011 IRIS value, the Air Force proposed to revise the TCE toxicity value to a more stringent level, despite the conclusion in the Air Force’s 2012 five-year review that the toxicity value in the 2007 ROD was still protective. The Air Force voluntarily chose to use the new IRIS toxicity value for TCE, and California agreed with that decision.
- The Air Force’s 2012 five-year review concluded that a change to the cleanup goal for perchlorate was needed to ensure future protectiveness. The Air Force chose to replace the ROD’s risk-based cleanup goal of 24 ppb for perchlorate with the October 2007 California perchlorate MCL of 6 ppb (a new ARAR). California agreed with that decision.
- The Air Force proposed to change the PCE toxicity value in the 2007 ROD to apply a new 2012 IRIS value that estimated that PCE was less toxic than estimated when applying the OEHHA value. As a result in the change in toxicity for PCE, the Air Force could apply vapor intrusion controls to a more limited area and still meet the remedial action objective of preventing exposures to PCE that exceed an excess cancer risk level of 1×10^{-6} . California disputed that decision.

The dispute before me involves this third issue regarding a proposed change in the PCE toxicity value. The facts show that the PCE toxicity value in the 2007 ROD remains protective, so lack of protectiveness is not a basis for changing it for this OU at this site at this time. The Air Force also agrees that changing the PCE toxicity value in the South AFRL ROD will not result in any meaningful change to the cost of the remedy. In addition, under the proposed ESD, the technical means by which protection from exposure to PCE is achieved in the 2007 ROD (i.e., a groundwater vapor exclusion zone) would be unchanged. Thus, these facts do not present an opportunity to bring past decisions into line with the current state of knowledge with respect to remediation science and technology, and by doing so, improve the cost effectiveness of site remediation while ensuring reliable short and long term protection of human health and the environment. Finally, changing the PCE toxicity value in this ROD would

⁸ See “Superfund Reforms: Updating Remedy Decisions” (Sept. 1996) (OSWER directive 9200.0-22).

⁹ See “A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Documents (OSWER directive 9200.1-23P) (July 1999) at 7-1 n.1. There may be other reasons for revising a remedy as well. See examples of post-ROD changes. *Id.* at 7-3 to 7-4.

¹⁰ The EPA has issued ESDs to revise a remedy based on new toxicity information showing a contaminant of concern posed less risk than previously understood. See Salem Acres (Salem, MA) January 1998 ESD; Burlington Northern Somers Plant (Somers, Montana) July 1998 ESD; Petrochem Recycling Corp (Salt Lake City, Utah) March 1999 ESD; Commencement Bay November 1997 ESD.

reduce the certainty provided by a settled remedy. Accordingly, applying considerations identified in the statute, the NCP, and EPA guidance, a change in the PCE toxicity value in this ROD is not warranted under these facts.¹¹

Withdrawal of 2015 Region IX RA Decision

Under the NCP, the EPA and other federal agencies may make insignificant changes to remedies without going through a formal process. Many insignificant changes are made to remedies during remedial design. If a change to the scope, performance, or cost of a remedy is significant, it requires an “explanation of significant differences.”¹² If the change fundamentally alters the basic features of a remedy with respect to scope, performance, or cost, the change requires a ROD amendment.¹³

The change in the PCE toxicity value proposed by the Air Force in the 2015 draft ESD for the South AFRL ROD would not have changed the remedial action objective of reducing excess cancer risks from exposure to PCE to 1×10^{-6} . This change would not have fundamentally altered the scope, performance or cost of the remedy. Thus, the change to the PCE toxicity value proposed by the Air Force in 2015, if appropriate under the facts of this matter, would have required an ESD, not a ROD amendment. Accordingly, the June 9, 2015 decision of the Region IX RA to require a change in the PCE toxicity value to be carried out through an amendment to the ROD is withdrawn.

Federal Facility Agreement Process and Timelines

Under the FFA for the South AFRL Site, after a party elevates a dispute to the EPA Administrator, a decision is to be made within 21 days. The dispute over the PCE toxicity value in the ROD for this site has been pending since July 2015.

This is not the last remedy decision to be made at the Edwards Air Force Base Superfund Site. In fact, a dispute over the PCE value in a ROD for another operable unit is working its way through the process. As stated in the *Principles for Reinforcing Federal Facility Agreement Informal and Formal Dispute Timelines*, “formal dispute timelines should be followed to the greatest extent practicable” by the FFA parties. I intend to hold the EPA to this standard, including the ongoing dispute related to the record of decision for the Arroyos operable unit at Edwards Air Force Base.

I appreciate all the time and consideration that the parties have put into this dispute. Thank you for the information provided and the thoughtful discussion of the relevant issues.

Sincerely,

Andrew R. Wheeler

¹¹ The facts presented in other RODs may lead to a different conclusion. In addition, if the facts at South AFRL change in the future, the Air Force could propose another ESD.

cc: Susan Bodine, OECA Assistant Administrator, U.S. EPA
Barry Breen, OLEM Acting Assistant Administrator, U.S. EPA
Michael Stoker, Region 9 Regional Administrator, U.S. EPA
Peter Wright, Special Counsel to the Administrator, U.S. EPA

Meeting Notes - National Water Division Directors Meeting
(September 7 – 8, 2017)

Day 1 – Thursday, September 7, 2017

Welcome, Introductions and Opening Remarks

Lee Forsgren Remarks:

- OW AA nominee:
 - o Last Friday president announced David Ross of Wisconsin to be AA for Water
 - o Will be at EPA on the 11th for brief programmatic overviews
 - o Expected to have hearing 20th or 27th (POSTPONED)
 - o Hopeful he will be in place in mid-to-late October

Mike Shapiro Remarks:

Ex. 5 Deliberative Process (DP)

Panel Session: “Views from the 3rd Floor

- *Ken Wagner*, Senior Advisor for Regional and State Affairs
- *Henry Darwin*, Assistant Deputy Administrator and Chief of Operations
- *Byron Brown*, Deputy Chief of Staff for Policy
- *Sarah Greenwalt*, Senior Advisor for Water and Cross-Cutting Initiatives
- *Tate Bennett*, Associate Administrator of the Office Public Engagement and Environmental Education

Henry Darwin

- Assistant Deputy Administrator and Chief of Operations, from AZ Director Department of Environmental Quality
- Experience with LEAN – hope is to develop system to support LEAN efforts for EPA, supported by Administrator

Byron Brown

- Deputy Chief of Staff for Policy Administrator's office, previous experience at EPA OGC 2001-2011
- Worked on House Natural Resources Committee, Senate Environment Committee, Inhofe
- Current portfolio includes infrastructure – anticipates proposal soon - legislative reforms and funding for EPA's water infrastructure and land revitalization programs

Discussion:

Ex. 5 Deliberative Process (DP)

Ken Wagner:

- Senior Advisor for Regional and State Affairs - liaison with states and Regions – has visited every Region twice (except 1 and 2) and 37 states.

Tate Bennett:

- Responsible for interaction with stakeholders on EPA initiatives – supports Ken and travels with Administrator

Discussion – Role of Federalism:

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Water Program Priorities Discussion, Lee Forsgren; Mike Shapiro

Lee:

Ex. 5 Deliberative Process (DP)

Mike:

- Agency still in process of developing specific plans and priorities that reflect broad principles
- OW focusing on (in addition to infrastructure):
 - o Safe DW – has never had as much priority and attention as currently (lead, PFAS, perchlorate).
 - Potential revision to lead & copper rule.
 - Perchlorate – court order deadline; finishing peer review and modeling response.

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Program Updates

WOTUS, Mindy Eisenberg, OWOW

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

WIFIA, Andrew Sawyers, Director, OWM

Ex. 5 Deliberative Process (DP)

SDWIS Prime update, Anita Thompkins, OGWDW

Ex. 5 Deliberative Process (DP)

Status updates on Executive Orders, Macara Lousberg, Benita Best-Wong

Macara:

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Benita – EO 13781 (Restructuring the Executive branch).

Ex. 5 Deliberative Process (DP)

(Andrew) – if there is an opportunity to get involved with these groups – please do.
Benita has been feeding suggestions on where to look for volunteers.

Litigation Update, *Steve Neugeboren, Associate General Counsel, Water Law Office*

- Robust litigation docket

Ex. 5 Deliberative Process (DP)

Strategic Planning & Budget *Tim Fontaine, Director, Resource Management Staff; Sharon Vazquez, Performance Team Leader, Resource Management Staff*

Ex. 5 Deliberative Process (DP)

State Interactions/Cooperative Federalism *Benita Best-Wong, Lee Forsgren*

Benita:

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Discussion:

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Communications and Process *Chris Korleski, Mike Shapiro, Benita Best-Wong, Andrea Drinkard*

Chris:

Ex. 5 Deliberative Process (DP)

Mike:

Ex. 5 Deliberative Process (DP)

Andrea:

Ex. 5 Deliberative Process (DP)

Day 2 – Friday, September 8, 2017

Drinking Water and Wastewater Problems on the Radar – A Regional Roundtable, *Sheila Frace, Deputy Director, OWM; Jennifer McLain, Deputy Director, OGWDW*

Drinking Water Oversight, *Bert Garcia, R8*

Ex. 5 Deliberative Process (DP)

Direct Implementation of small systems and tribal systems, *Tomas Torres, R9*

Ex. 5 Deliberative Process (DP)

Produced Water, *David Garcia and Rob Wood*

Ex. 5 Deliberative Process (DP)

Perspectives on the Lead and Copper Rule, *Chris Korleski, R5; Anita Thompson, Director, Drinking Water Protection Division, OGWDW*

Anita Thompson:

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Lisa Huff LCR Update:

Ex. 5 Deliberative Process (DP)

Chris Korleski:

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Health Advisories *Mary Walker, Region 4; Betsy Behl, Director, Health and Ecological Criteria Division, OST; Ryan Albert, OGWDW*

Regional Perspective – Mary Walker:

Ex. 5 Deliberative Process (DP)

Agency approaches to emerging contaminants Betsy Behl:

Ex. 5 Deliberative Process (DP)

Ryan Albert –

Ex. 5 Deliberative Process (DP)

Discussion:

Ex. 5 Deliberative Process (DP)